

PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE INSTALLATION OF A NEW TRAFFIC CONTROL SIGNAL AT THE INTERSECTION OF MD 214 AND CAMERON GROVE BOULEVARD IN PRINCE GEORGE'S COUNTY. MD 214 IS ASSUMED TO RUN IN AN EAST-WEST DIRECTION.

INTERSECTION OPERATION

THE INTERSECTION WILL OPERATE IN A NEMA SIX PHASE, FULL-TRAFFIC-ACTUATED MODE WITH EXCLUSIVE-PERMISSIVE LEFT TURN PHASES FOR EASTBOUND AND WESTBOUND MD 214. AN ALTERNATE PEDESTRIAN PHASE WILL BE ADDED ACROSS THE WEST LEG OF MD 214.

CONTROLLER REQUIREMENTS

A FULL-TRAFFIC-ACTUATED, EIGHT-PHASE CONTROLLER WITH THREE, 4-CHANNEL TIME-DELAY-OUTPUT LOOP DETECTOR AMPLIFIERS WILL BE INSTALLED IN A BASE MOUNTED CABINET.

PHASE CHART

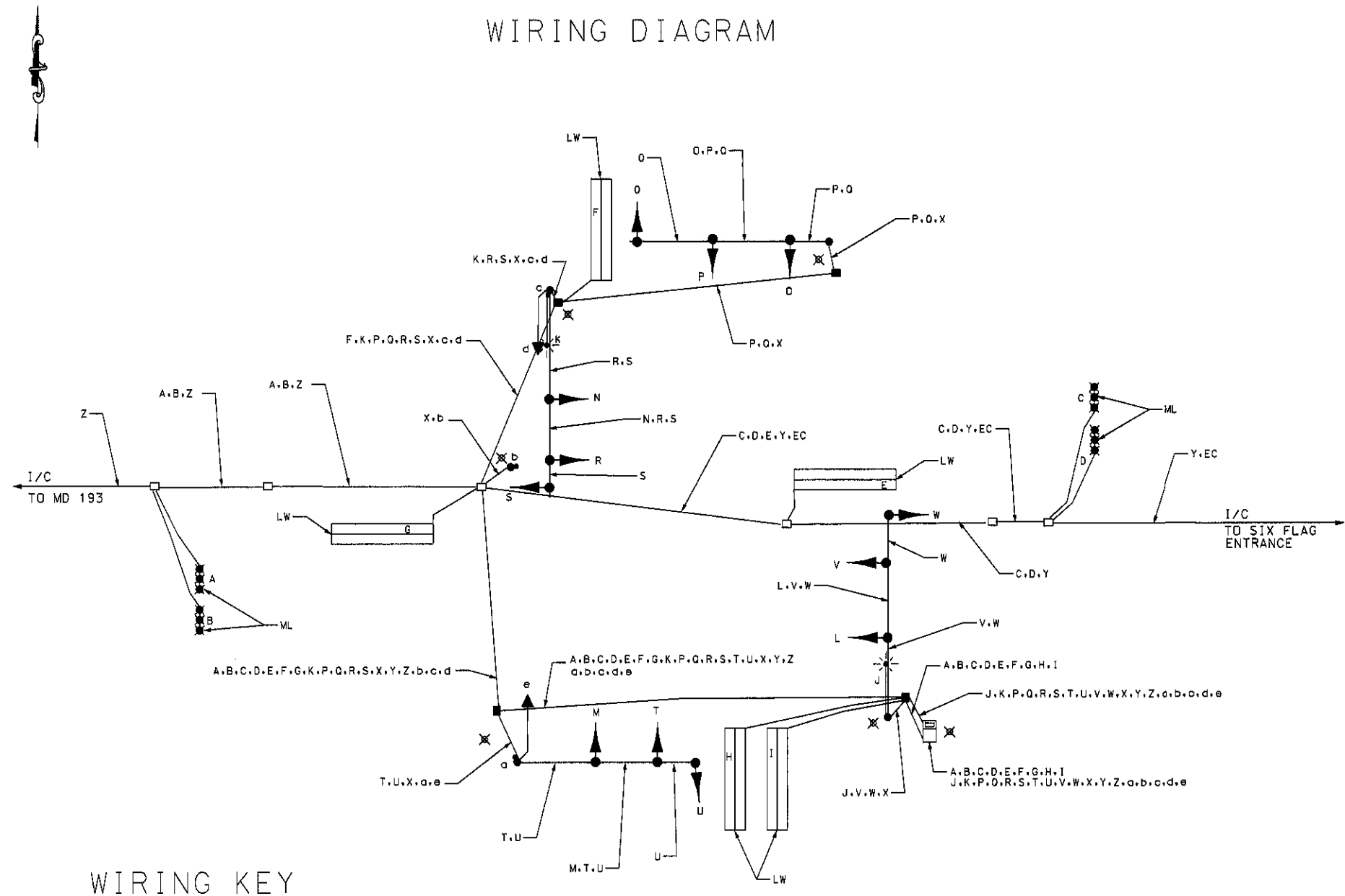
| | | | | | | | | | | | | | | |
|--------------------|--|------|------|------|------|------|------|------|------|------|------|-------|-------|----|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| | | | | | | | | | | | | | | |
| PHASE 1 & 5 | R | R | R | R | R | R | R | R | R | R | R | DW | DW | |
| 1 & 5 CHANGE | PHASE 1 & 5 CHANGE MAY CHANGE TO PHASE 1 & 6, 2 & 5 OR 2 & 6 | | | | | | | | | | | | | |
| PHASE 1 & 6 | G | R | R | R | R | R | R | R | R | R | R | DW | DW | |
| 1 & 6 CHANGE | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | DW | DW | |
| PHASE 2 & 5 | R | R | R | R | R | R | R | R | R | R | R | DW | DW | |
| 2 & 5 CHANGE | R | R | R | R | R | R | R | R | R | R | R | DW | DW | |
| PHASE 2 & 6 | G | G | G | G | G | G | G | G | G | G | G | DW | DW | |
| 2 & 6 CHANGE | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | DW | DW | |
| PHASE 4 & 8 | R | R | R | R | R | R | G | G | G | G | G | DW | DW | |
| 4 & 8 CHANGE | R | R | R | R | R | R | Y | Y | Y | Y | Y | DW | DW | |
| PHASE 4 ALT. & 8 | R | R | R | R | R | R | G | G | G | G | G | WK | WK | |
| PED CLEAR | R | R | R | R | R | R | G | G | G | G | G | FL/DW | FL/DW | |
| 4 ALT. & 8 CHANGE | R | R | R | R | R | R | Y | Y | Y | Y | Y | DW | DW | |
| FLASHING OPERATION | FL/Y | FL/Y | FL/Y | FL/Y | FL/Y | FL/Y | FL/R | FL/R | FL/R | FL/R | FL/R | DARK | DARK | |

EQUIPMENT LIST "B" CONTINUED

B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY CONTRACTOR
ALL EQUIPMENT SHALL HAVE CATALOG CUTS SUBMITTED TO OOTS FOR APPROVAL PRIOR TO INSTALLATION.

| ITEM NO. | QUANTITY | DESCRIPTION |
|----------|----------|---|
| 8023 | 3 EA | FURNISH AND INSTALL MAST ARM POLE AND 60 FT. MAST ARM |
| 8028 | 4 EA | FURNISH AND INSTALL MICRO PROBE SET 1000 FT. LEAD-IN |
| 8030 | 1 EA | FURNISH AND INSTALL PEDESTAL POLE ANY SIZE |
| 8032 | 3 EA | FURNISH AND INSTALL PEDESTRIAN PUSHBUTTON AND SIGN |
| 8051 | 50 LF | FURNISH AND INSTALL 3 IN. SCHEDULE 80 RIGID ELECTRICAL PVC CONDUIT - TRENCHED |
| 8052 | 315 LF | FURNISH AND INSTALL 4 IN. SCHEDULE 80 RIGID ELECTRICAL PVC CONDUIT - BORED |
| 8053 | 20 LF | FURNISH AND INSTALL 4 IN. SCHEDULE 80 RIGID ELECTRICAL PVC CONDUIT - TRENCHED |
| 8057 | 23 CY | FURNISH AND INSTALL CONCRETE FOR SIGNAL FOUNDATION |
| 8059 | 236 LF | FURNISH AND INSTALL WOOD SIGN SUPPORTS 4" X 6" |
| 8060 | 970 LF | FURNISH AND INSTALL NO. 6 A.W.G. STRANDED BARE COPPER GROUND WIRE |
| 8062 | 60 LF | FURNISH AND INSTALL 1 IN. GALVANIZED DETECTOR WIRE SLEEVE |
| 8068 | 25 LF | FURNISH AND INSTALL 1 IN. LIQUID TIGHT FLEXIBLE NON-METALLIC CONDUIT FOR DETECTOR WIRE SLEEVE |
| 8071 | 50 LF | FURNISH AND INSTALL ELECTRICAL CABLE 1-CONDUCTOR NO. 4 A.W.G.-THHN/THWN |
| 8072 | 4 EA | FURNISH AND INSTALL ELECTRICAL HANDHOLE |
| 8076 | 1960 LF | FURNISH AND INSTALL 12-PAIR COMMUNICATION CABLE, JELLY-FILLED (UNDERGROUND) |
| 8080 | 6 EA | FURNISH AND INSTALL GROUND ROD 3/4 IN. DIAMETER BY 10 FT. LENGTH |
| 8081 | 860 LF | FURNISH AND INSTALL ELECTRICAL CABLE 2-CONDUCTOR (ALUMINUM SHIELDED) |
| 8082 | 670 LF | FURNISH AND INSTALL ELECTRICAL CABLE 2-CONDUCTOR (NO. 14 A.W.G.) |
| 8083 | 470 LF | FURNISH AND INSTALL ELECTRICAL CABLE 3-CONDUCTOR (NO. 14 A.W.G.) |
| 8084 | 100 LF | FURNISH AND INSTALL ELECTRICAL CABLE 5-CONDUCTOR (NO. 14 A.W.G.) |
| 8085 | 2300 LF | FURNISH AND INSTALL ELECTRICAL CABLE 7-CONDUCTOR (NO. 14 A.W.G.) |
| 8086 | 420 LF | FURNISH AND INSTALL ELECTRICAL CABLE 2-CONDUCTOR (NO. 12 A.W.G.) |
| 8087 | 2280 LF | FURNISH AND INSTALL LOOP WIRE ENCASED IN FLEXIBLE TUBING (NO. 14 A.W.G.) |
| 8088 | 680 LF | FURNISH AND INSTALL SAW CUT FOR SIGNAL LOOP DETECTOR |
| 8093 | 1 EA | FURNISH AND INSTALL CONTROLLER AND CABINET BASE MOUNT (SIZE 6) |
| --- | 3 EA | FURNISH AND INSTALL LOOP DETECTOR AMPLIFIER |
| --- | 4 EA | FURNISH AND INSTALL W3-3 SIGN (48" X 48") WITH "NEW" PANEL SIGN (30" X 30") AND FLAGS |
| --- | 2 EA | FURNISH AND INSTALL W3-3 SIGN (36" X 36") WITH "NEW" PANEL SIGN (30" X 30") AND FLAGS |
| --- | 2 EA | FURNISH AND INSTALL R10-12 SIGN (36" X 42") |
| --- | 2 EA | MAST ARM MOUNT |
| --- | 2 EA | FURNISH AND INSTALL D3-2 DUAL FACED SIGN "CAMERON GROVE BLVD.", (VAR. X 16") |
| --- | 2 EA | MAST ARM MOUNT |
| --- | 2 EA | FURNISH AND INSTALL M95-1 SIGN (72" X 24") |
| --- | 280 LF | MAST ARM MOUNT |
| --- | 280 LF | REMOVE AND RE-INSTALL EXISTING INTERCONNECT CABLE |

WIRING DIAGRAM



WIRING KEY

| | | | |
|-----|--|-----|---|
| A-D | MICRO-LOOP PROBE | Z | 1-CONDUCTOR ELECTRICAL CABLE (4 A.W.G.)-THHN/THWN |
| E-I | 2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.) ALUMINUM SHIELDED | a-c | 2 CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.) |
| J-K | 2 CONDUCTOR ELECTRICAL CABLE (NO. 12 A.W.G.) | d-e | 3 CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.) |
| L-O | 5 CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.) | EC | EXISTING CABLE |
| P-W | 7 CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.) | LW | LOOP WIRE (NO. 14 A.W.G.) |
| X | STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.) | ML | MICRO-LOOP PROBE |
| Y | 12-PAIR COMMUNICATION CABLE, JELLY FILLED UNDERGROUND | ⊗ | GROUND ROD |
| Z | EXISTING 12-PAIR COMMUNICATION CABLE, JELLY FILLED UNDERGROUND | | |

EQUIPMENT LIST "A"

A. APPROVED SHA EQUIPMENT TO BE PURCHASED BY THE DEVELOPER AND INSTALLED BY THE CONTRACTOR. ALL EQUIPMENT IN THIS LIST SHALL HAVE CATALOG CUTS SUBMITTED FOR APPROVAL PRIOR TO INSTALLATION.

| ITEM NO. | QUANTITY | DESCRIPTION |
|----------|----------|-------------|
| NONE | | |

CONTACT PERSONS FOR DISTRICT 3 ARE AS FOLLOWS:

| | | |
|---|---|--|
| MR. MAJID SHAKIB ASSISTANT DISTRICT ENGINEER - TRAFFIC (301) 513-7358 | MR. JOE GECKLE ASSISTANT DISTRICT ENGINEER - UTILITIES (301) 513-7350 | MR. RANDY BROWN ASSISTANT DISTRICT ENGINEER - MAINTENANCE (301) 513-7304 |
|---|---|--|

CONTACTS FOR OFFICE OF TRAFFIC AND SAFETY

| | |
|---|--|
| MR. RICHARD DAFF SR. CHIEF, TRAFFIC OPERATIONS (410) 787-7630 | MR. EUGENE BAILEY TEAM LEADER SIGN OPERATIONS (410) 787-7676 |
| MR. ROBERT SNYDER ASSISTANT DIVISION CHIEF, TRAFFIC OPERATIONS (410) 787-7631 | MS. DARLENE EIDE SUPPLY OFFICE IV (SIGNAL SHOP WAREHOUSE) (410) 787-7668 |
| MR. ED RODENHIZER TEAM LEADER SIGNAL OPERATIONS (410) 787-7652 | |

EQUIPMENT LIST "B"

B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY CONTRACTOR
ALL EQUIPMENT SHALL HAVE CATALOG CUTS SUBMITTED TO OOTS FOR APPROVAL PRIOR TO INSTALLATION.

| ITEM NO. | QUANTITY | DESCRIPTION |
|----------|----------|--|
| 1001 | LS | MAINTENANCE OF TRAFFIC |
| 2002 | 6 EA | TEST PIT EXCAVATION |
| 5004 | 260 LF | FURNISH AND INSTALL 12 IN. WHITE HEAT APPLIED THERMOPLASTIC PAVEMENT MARKING |
| 5005 | 170 LF | FURNISH AND INSTALL 24 IN. WHITE HEAT APPLIED THERMOPLASTIC PAVEMENT MARKING |
| 6001 | 40 LF | FURNISH AND INSTALL DEPRESSED CURB AND GUTTER |
| 6004 | 40 SF | FURNISH AND INSTALL 4 FT. CONCRETE SIDEWALK |
| 8010 | 4 EA | FURNISH AND INSTALL 12 IN. PEDESTRIAN SIGNAL HEAD SECTION |
| 8011 | 32 EA | FURNISH AND INSTALL 12 IN. VEHICULAR SIGNAL HEAD SECTION |
| 8013 | 2 EA | FURNISH AND INSTALL 15 FT. BRACKET ARM FOR SIGNAL STRUCTURE |
| 8014 | 2 EA | FURNISH AND INSTALL 250 WATT HPSV LUMINAIRE WITH PHOTOCELL |
| 8019 | 12 EA | FURNISH AND INSTALL 8 IN. VEHICULAR SIGNAL HEAD SECTION |
| 8020 | 1 EA | FURNISH AND INSTALL CONTROL AND DISTRIBUTION EQUIPMENT FOR SIGNAL |
| 8022 | 1 EA | FURNISH AND INSTALL MAST ARM POLE AND 50 FT. MAST ARM |

EQUIPMENT LIST "C"

C. EXISTING EQUIPMENT TO BE REMOVED BY THE CONTRACTOR AND DELIVERED TO THE STATE HIGHWAY ADMINISTRATION, 7491 CONNELLEY DRIVE, HANOVER, MARYLAND 21076. THE CONTRACTOR SHALL NOTIFY THE SHA AT (410) 787-7652 AT LEAST THREE DAYS IN ADVANCE OF DELIVERY.

| ITEM NO. | QUANTITY | DESCRIPTION |
|----------|----------|-------------|
| NONE | | |

ALL OTHERS SHALL BECOME THE PROPERTY OF THE CONTRACTOR



MARYLAND DOT - STATE HIGHWAY ADMINISTRATION
Office of Traffic & Safety
TRAFFIC ENGINEERING DESIGN DIVISION
GENERAL INFORMATION
MD 214 AT CAMERON GROVE BOULEVARD

| | | | |
|-----------------------------|--------------------------------|--------------------------|----------------------------|
| DRAWN BY: <u>M.HOWELL</u> | F.A.P. NO. <u>BW996M82</u> | TS NO. <u>4205</u> | SHEET NO. <u>3 OF 3</u> |
| CHECKED BY: <u>J.ZAYDEL</u> | S.H.A. NO. | | |
| SCALE: <u>NONE</u> | COUNTY: <u>PRINCE GEORGE'S</u> | T.I.M.S. NO. <u>E032</u> | |
| DATE: <u>6-7-02</u> | LOG MILE: <u>16021407.90</u> | | |

TRAFFIC **C**ONCEPTS, Inc.

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